

### **REMARKS**

The Office Action dated February 8, 2006 has been carefully considered. Claims 1-3, 6, and 8-11 have been amended. Claims 1-12 are in this application.

The specification has been amended and no new matter has been introduced by these amendments. The amendments to the paragraphs at page 1, line 6; page 6, line 19; page 6, line 29; page 7, line 25; and page 8, line 11; wherein the phrase “applied in advance” was changed by deleting “in advance”, does not introduce new matter, since this term is merely duplicative of the description of a “*pre-applied* outer layer material” which appears in the same sentence.

The amendment to the paragraph beginning at page 6, line 19, which inserts the phrase “the outer layer material for” is supported at page 6, lines 18-22.

The amendments to the paragraphs at page 7, line 5, and page 8, line 15, which inserts the phrase “of the surface layer material” is supported at page 13, line 27-29.

The amendment to the paragraph beginning at page 7, line 18, wherein “0” is replaced by “30” is supported at page 13, lines 14-16.

The amendment to the paragraph beginning at page 8, line 7, wherein the original two ranges are replaced by the ranges “100/50-100/80” and “100/30-100/60” respectively, is supported at page 13, lines 1-4 and at page 11, lines 21-23, respectively.

### **Claim Objections**

The Examiner objected to claims 3, 7, and 11 because these claims recite “polyolefin foam” in the body of the claim whereas the independent claims recite “a pre-applied outer layer material” in the preamble, which the Examiner found to be unclear. Applicant has amended claims 3 and 11 to recite that the polyolefin foam layer is joined to the back surface of the surface layer material. The amendment should clarify that claims 1 and 8 are directed to the pre-applied outer layer material, claim 7 is further limited to a pre-applied outer layer material that is formed solely of a thermoplastic sheet or fibrous material, or is formed by laminating a polyolefin foam to the outer layer material, and claims 3 and 11 are further limited to a pre-applied outer layer that is formed of a surface layer material and a polyolefin foam layer joined

to the back surface of the surface layer material. Support for the amendment is at page 13, line 27-29.

Claim 9 was objected to as being of improper dependent form for failing to further limit the subject matter of the previous claim. Claim 9 has been amended to obviate the objection. The amendment is supported at page 13, lines 1-4 and at page 11, lines 21-23.

35 U.S.C. § 112, second paragraph

Claims 1-11 were rejected as being indefinite for reciting “having applied in advance”. Claims 1 and 8 have been amended to obviate the rejection.

35 U.S.C. § 103

Claims 1, 2, 4-6 and 8-10 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Butterbach et al. (US 5,512,625). Applicant traverses the rejection.

The present invention relates to the pre-applied outer layer material comprising an outer layer material for automotive interior trim and a hotmelt. An object of the present invention is to provide a pre-applied outer layer material for an automotive interior trim obtained by using adhesives which precludes the phenomenon of blocking, lacks tenacity, and excels in durability and adhesive property and a method for the production of an automotive interior trim, or the like.

The hotmelt used in the present invention has, as main components, (A) an amorphous poly ( $\alpha$ -olefin) having melting viscosity in the range of 500-100,000 mPa•s/190°C., (B) a tackifier resin having a softening point, determined by the ring and ball method, of not lower than 110°C., and (C) a polypropylene wax having a melting point of not lower than 120°C, and having a weight ratio of (A) to (C) in the range of 100/50-100/100.

The hotmelt resulting from compounding a specific amorphous poly( $\alpha$ -olefin), a tackifier resin, and a high melting wax at a specific proportion is capable of adhering to various substrates at an active temperature in the range of 100°C-150°C while retaining resistance to a temperature of 100°C. According to the present invention, a pre-applied outer layer material capable of shunning the phenomenon of blocking and acquiring proper adhesiveness without heating the

molded object can be provided, in one embodiment, by a pre-applied polyolefin foam to which is applied the hotmelt obtained by compounding an amorphous poly( $\alpha$ -olefin), a tackifier resin, and a polypropylene wax in a specific proportion.

On the other hand, the invention by Butterbach et al. relates to a thermoplastic hotmelt adhesive comprising a blend of polyolefins, which comprises: (A) a substantially amorphous poly- $\alpha$ -olefin; (B) a substantially crystalline poly- $\alpha$ -olefin; (C) an oligomer of an  $\alpha$ -olefin containing 8 to 16 carbon atoms in the monomer, the oligomer having a molecular weight of up to 5,000; and (D) additives. The blends according to this invention have the following advantages over known adhesives without oligo- $\alpha$ -olefin: (1) high impact strength, (2) low glass transition temperature, and (3) low melt viscosity.

When the constituents of the hotmelt used in the present invention and the invention by Butterbach et al. are compared, the hotmelt used in the present invention does not comprise the aforementioned substantially crystalline poly- $\alpha$ -olefin and oligomer of an  $\alpha$ -olefin which is characteristic of the invention by Butterbach et al., as described above, and thus both inventions are completely different from each other.

Furthermore, a hotmelt comprising a noncrystalline olefin polymer, namely amorphous polyolefin, a crystalline ethylene polymer and crystalline polypropylene wax, and a tackifier resin is at a disadvantage in that it has an unduly low 180-degree peel strength, an unduly large creep at 100 °C., or both, as described at page 5, lines 17-27 of the present patent application. The hotmelt of Butterbach et al. resembles just such a composition.

Therefore, the physical characteristics of the hotmelts specified in both inventions are completely different from each other.

In addition, Butterbach et al. neither suggests nor discloses that the hotmelt resulting from compounding a specific amorphous poly( $\alpha$ -olefin), a tackifier resin, and a high melting wax at a specific proportion is capable of adhering to various substrates at an active temperature in the range of 100°C-150°C while retaining resistance to a temperature of 100°C. Furthermore, a pre-applied outer layer material capable of shunning the phenomenon of blocking and acquiring proper adhesiveness without heating the *molded* object can be provided by a pre-applied polyolefin foam having applied thereon the hotmelt obtained by compounding an

amorphous poly( $\alpha$ -olefin), a tackifier resin, and a polypropylene wax at a specific proportion. Furthermore, Butterbach et al. disclose the disadvantage of the adhesives without oligo- $\alpha$ -olefin, as described in Column 3, lines 58-62 of US Patent No. 5,512,625 to Butterbach et al.

Therefore, the present invention was unobvious to one having ordinary skill in the art. It would not have been possible for a person skilled in the art to achieve the present invention on the basis of the invention by Butterbach et al.

Claims 1, 3, 6-8, and 11 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Haardt et al. (U.S. 5,180,628).

The invention by Haardt et al. relates to shock-absorbing composite moldings based on polypropylene polymers, comprising a propylene polymer foam laminated on both sides with a propylene polymer using a hot-melt adhesive layer which bonds the outer layers to the foam.

The Examiner asserts that the polypropylene layer (a) of Haardt et al. reads on the claimed outer layer material formed of thermoplastic sheet and that the polypropylene foam layer (c) of Haardt et al. reads on the polyolefin foam layer joined to the back surface by adhesion as claimed in the instantly claimed subject matter. However, the present invention relates to an automotive interior trim produced via a step of thermally bonding an outer layer material and a molded article to a pre-applied outer layer material having adhesives applied thereto. Thus, the hotmelt used in the present invention is used for bonding an outer layer material and a molded article and is not for bonding an outer layer material and a polyolefin foam layer. Furthermore, Haardt et al. neither suggest nor disclose a pre-applied outer layer material for automotive interior trim, which comprises having applied to the back surface of an automotive interior trim a hotmelt.

In addition, as described above, the ingredients of the hot-melt adhesive of Butterbach et al. are completely different from the ingredients of the hotmelt used in the present invention. Thus, even if the ingredients were compounded in a specific proportion in the hot-melt adhesive of Butterbach et al., the hotmelt used in the present invention would not be obtained.

In view of the above, the person having ordinary skill in the art would not have conceived of the present invention based on the disclosures of Butterbach et al. and Haardt et al. Consequently, the present invention is unobvious.

In view of the foregoing, Applicants submit that all pending claims are in condition for allowance and request that all claims be allowed. The Examiner is invited to contact the undersigned should he believe that this would expedite prosecution of this application. It is believed that no fee is required. The Commissioner is authorized to charge any deficiency or credit any overpayment to Deposit Account No. 13-2165.

Respectfully submitted,

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